

I claim:

1. An apparatus for providing controlled cooling to a localized volume within the interior of a vehicle that contains an HVAC system for controlling the interior temperature of the passenger compartment, comprising:
 - a heat exchanger element located adjacent to the localized volume and connected to receive refrigerant fluid from the condenser and compressor of the HVAC system;
 - at least one air duct having openings in communication with the localized volume and said evaporator core element to direct the flow of air to and from the localized volume;
 - an air movement device that controls the flow of air through the air duct;
 - at least one sensor for detecting the temperature of the air flowing through the air duct;
 - a control device being connected to said at least one sensor and to said air movement device for regulating the flow of air over said evaporator core and into said localized volume as necessary to cool and maintain the temperature of said localized volume within a predetermined range of temperatures.
2. An apparatus as in claim 1, wherein said air movement device is located within said air duct.
3. An apparatus as in claim 1, wherein a first sensor is included for detecting the temperature of air entering the air duct from the localized volume and a second sensor is included for detecting the temperature of air leaving the air duct to the localized volume.
4. An apparatus as in claim 3, wherein said first and second sensors are connected to said control device.
5. An apparatus as in claim 1, further including at least one control valve between said evaporator core and said condenser to control the flow of refrigerant fluid to said evaporator core, wherein said control device is connected to said control valve to regulate the flow of coolant to said evaporator core.
6. An apparatus as in claim 1, wherein said refrigerant fluid is supplied from a condenser and compressor which is shared in common with the HVAC and independently controlled by said apparatus and said HVAC.

7. In a passenger vehicle which contains an HVAC system for controlling the interior temperature of the passenger compartment, an apparatus for providing controlled cooling to the air of a localized volume suitable for storing groceries and the like, comprising:
walls, flooring and cover to define said localized volume and insulation to
5 retard the migration of heat to said localized volume;
an air duct having openings in communication with the localized volume to receive air from said localized volume and to direct the flow of air to said localized volume;
a heat exchanger located in the flow of air within said air duct and connected to receive refrigerant fluid from the HVAC system;
10 an air movement device for creating the flow of air through the air duct;
at least one sensor for detecting the temperature of the air flowing through the air duct;
a control device being connected to said at least one sensor and to said air movement device for regulating the flow of air over said heat exchanger and into said
15 localized volume as necessary to cool and maintain the temperature of said localized volume within a predetermined range of temperatures.
8. An apparatus as in claim 7, wherein said air movement device is located within said air duct.
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9. An apparatus as in claim 7, wherein a first sensor is included for detecting the temperature of air entering the air duct from the localized volume and a second sensor is included for detecting the temperature of air leaving the air duct to the localized volume.
- 25 10. An apparatus as in claim 9, wherein said first and second sensors are connected to said control device.
11. An apparatus as in claim 7, further including at least one control valve between said heat exchanger and the condenser of said HVAC to control the flow of
30 refrigerant fluid to said heat exchanger, wherein said control device is connected to said control valve to regulate the flow of coolant to said heat exchanger.
12. An apparatus as in claim 7, wherein said localized volume is located in the storage area of the vehicle and at least one of the walls is configured to allow access to said
35 localized volume.
13. An apparatus as in claim 7, wherein said localized volume is located in the storage area of the vehicle and said cover is configured to allow access to said localized volume.
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14. An apparatus as in claim 7, wherein said air duct is adjacent to said localized volume with openings in one wall of said localized volume to receive air from and to direct the flow of air to said localized volume.
- 5 15. An apparatus as in claim 7, wherein said air duct is adjacent to said localized volume with openings in separate walls of said localized volume to receive air from and to direct the flow of air to said localized volume.
- 10 16. An apparatus as in claim 7, wherein said air duct is adjacent to said localized volume with openings in one wall and in said floor of said localized volume to receive air from and to direct the flow of air to said localized volume.
17. An apparatus as in claim 7, wherein said air duct is located within said localized volume with openings disposed to circulate air within said localized volume.
- 15 18. An apparatus as in claim 7, wherein said refrigerant fluid is provided from a condenser and compressor that are shared in common with said HVAC and independently controlled by said apparatus and said HVAC.
- 20 19. A method of providing controlled cooling to a localized volume within the interior of a vehicle which contains an HVAC system for controlling the interior temperature of the passenger compartment, comprising the steps of:
- providing insulated walls, flooring and cover to define said localized volume and retard the migration of heat to said localized volume;
 - 25 providing an air duct adjacent to and in communication with the localized volume to receive air from said localized volume and to direct the flow of air to said localized volume;
 - providing an evaporator core element located in the flow of air within said air duct and connected to receive refrigerant fluid from the condenser of said HVAC system;
 - 30 providing an air movement device for creating the flow of air through the air duct;
 - providing at least one sensor for detecting the temperature of the air flowing through the air duct;
 - providing a control device being connected to said at least one sensor and to said air movement device for regulating the flow of air over said evaporator core and into said
 - 35 localized volume as necessary to cool and maintain the temperature of said localized volume within a predetermined range of temperatures.
20. A method as in claim 19 wherein said air movement device is provided to be
- 40 within said air duct.

21. A method as in claim 19, wherein a first sensor is provided for detecting the temperature of air entering the air duct from the localized volume and a second sensor is provided for detecting the temperature of air leaving the air duct to the localized volume.

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22. A method as in claim 21, wherein said first and second sensors are connected to said control device.

23. A method as in claim 19, further including the step of providing at least one control valve between said evaporator core and the condenser of said HVAC to control the flow of refrigerant fluid to said evaporator core, wherein said control device is connected to said control valve to regulate the flow of coolant to said evaporator core.

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